5

[0080] The safety monitor application 118 emits the local alarm signal at 340 until at 355 user input is received to cancel the local alarm at 360. The local alarm may automatically cancel after expiry of the timer timeout period configured in alarm configuration fields 630 and 640.

[0081] Referring also now to FIG. 4, a method 400 is described for executing the safety monitor application in an interval timer mode. Method 400 begins at 405, following selection of the interval timer mode at 260. Until the timer start button 730 is selected at 410, the timer awaits user input. Once input is received at 410 to start the timer, then at 412, the timer module 124 checks whether recipient contact details have been stored in the device memory 114. If no such details are stored or they do not seem to be valid (according to basic format checks), then an error message is displayed at 414 and the timer is not started. If seemingly valid contact details are stored in memory 114, then at 415, the timer module 124 checks whether suitable timer periods have been configured for the interval time mode. If no timer period (or no suitable timer period) is determined to be configured at 415, then timer module 124 sets a default timer period at 420 and then begins the timer at 425.

[0082] In the interval timer mode, if user input is received to stop the timer at 430, then the timer is stopped at 435. Otherwise, the timer module 124 waits for the timer period to expire at 440. Once the timer period expires at 440, the local alarm signal is emitted at 445 and then at 450, the safety monitor application 118 generates and transmits an alarm message to the server 145 similar to the alarm message transmitted at 345 but indicating that the timer was in the interval timer mode, rather than the motion detection mode. At 455, the server 145 sends alarm messages to stored contacts in a similar manner to step 350 described above. In some embodiments, the handheld mobile computing device 110 may be configured to transmit text messages, such as SMS (short messaging service) directly to a destination device 150 via public mobile telephony network infrastructure. This may be done instead of or in addition to transmission of such text messages via server 145.

[0083] If at step 460, user input is received to cancel the local alarm, then the local alarm is cancelled at 465 and the timer is reset at 425 to begin again.

[0084] In either the motion detection mode or the interval timer mode, a panic alarm button may be provided which allows the user of the computing device 110 to cause a panic alarm message to be transmitted to the contacts via server 145 (whether or not the timer is running in either mode). This panic alarm button may be in the form of a start button 730 or a stop button 830 (FIG. 8) and may be activated by holding that button for a pre-configured activation period. Alternatively, the panic alarm button may be a separate button to the start and stop buttons 730, 830. The panic alarm may optionally be activated only during the execution of the timing function following steps 325 or 425 or alternatively may be activatable at any time, even if a timer is not running. Once the panic alarm button is pressed at 365 or 470 and held for the activation period at 370 or 475, then a local alarm signal is emitted at 340 or 445 and the safety monitor application 118 generates and transmits an alarm message to the server at 350 or 455, as described previously.

[0085] In order to be able to provide the location identification information as part of an alarm message, the location component 135 regularly and periodically determines the geographic location of the computing device 110 and pro-

vides this to the processor 112, which stores it in memory 114 for use in case an alarm message is to be transmitted.

[0086] The location component 135 may be configured to determine the geographic location of the computing device to within a calculated accuracy. This calculated location accuracy may be transmitted along with the determined or estimated geographic location of the computing device 110 when an alarm message is transmitted to the server 145. The relative location accuracy may be indicated on a display generated by the user interface 122, examples of which are shown in FIG. 7 as 720 and in FIG. 8 as 820. The location accuracy may be displayed as a number and/or qualitative indication such as "good", "poor" or "unknown". The location accuracy information may be useful information for the user to know, for example where the user is in a low-reception area and the user is about to begin work and intends to rely on the safety monitor application 118.

[0087] FIGS. 5A, SB and SC illustrate example displays of introduction pages 510, 520 and 530 displayed to a user viewing the safety monitor application 118 (as generated by the user interface 122) for the first time or in response to selection of a "help" or "information" option displayed on one of the other screens. A first introduction page 510 may explain that the safety monitor application 118 acts as an emergency beacon in the pocket of the user, so that in an emergency, the safety monitor application informs, for example, three colleagues via SMS and email that the user is not responding and gives the colleagues the user's last location. Introduction page 520 may explain that in one timer mode, which may be referred to as a health detection mode, the user may configure a time period by which the user would intend to routinely provide user input to the device 110 and that the safety monitor application 118 will alarm locally upon expiry of that time period without receiving user input. If the safety monitor application 118 generates an alarm and no further input is received, then the safety monitor application 118 will generate and send alarm messages to one or more contacts including the last determined geographic location of the computing device 110. In introduction screen 530, the motion detection mode may be explained in a similar manner to the health detection mode in screen 520.

[0088] FIG. 7 is an example display of a home screen 700 for an interval timer mode. The home screen 700 may display a configuration option 705 to allow the user to reconfigure the alarm and notification settings as described above in relation to FIGS. 6A and 6B. Home screen 700 may further comprise a banner area 710 that identifies a name and contact address or phone number of the user of the handheld mobile computing device 110. In a main portion of the home screen 700, the start button 730 is provided to enable the user to start the interval timer. This toggles to a "stop" button (as shown in FIG. 8) once it is pressed. A count down timer display may be included in a portion 720 of the home screen 700, to indicate the time remaining until the end of the timer period, optionally together with an indication of the GPS location accuracy determined by the location component 135 in combination with the processor 112.

[0089] Home screen 700 may also comprise a mode identification banner 740, together with an indication of the full interval period configured for that mode. Home screen 700 may also comprise a status banner 750 to indicate the current status (ie active, inactive or alarm generated, for example), together with the time at which the status was most recently changed.